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INDIVIDUALIZING PROBLEMS FOR PUPILS

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Teachers have long recognized the necessity for drill as a teaching process. They have quite generally agreed that the object is "to reduce responses of thought and action to an automatic basis"; that there should be a motive for drill; that there should be a maximum of attention in repetition; that the attention may be held by varying the procedure or by limiting the time for doing the task; and that there should be increasing intervals of time between repetitions.

With all these characteristics of good drill in mind good teachers still find that an observance of these criteria does not reach individual needs. They know that there are in the elementary schools certain fundamentals which every pupil should master. They know that these fundamentals are found in spelling, reading, and language as well as in arithmetic. They know that the reaction of the pupil to these fundamental facts presented must become automatic. They also know that after every quality of good drill has been utilized, it becomes necessary to individualize each pupil's problems before success is achieved.

If something can be done to individualize the responses which are to become automatic, less class and individual drill will be necessary. If the teacher will plan to check up the individual achievement of each pupil on the facts presented for drill and to segregate these failures about once each week the results will be a surprise to most teachers. When the pupil knows what *his* particular problem is, and when he knows that his teacher and classmates know it, he will be more inclined to attack and solve *his* problem.

The following are typical problems which may be individualized for the pupils in any schoolroom: stating combinations and separations of numbers up to twenty, stating products involved in the multiplication tables, stating the blends presented for mastery in phonic work, pronouncing correctly words taught, spelling correctly words taught, properly filling blanks in teaching correct usages and punctuation. A record of results secured from each pupil at stated intervals may be kept on the blackboard, or on a large record sheet used for the guidance of both teacher and pupils. In making tests on achievement a random selection should be made from all the facts taught for a half-year, in order to determine whether the pupils are retaining their ability to respond quickly to the facts taught.

In Tables I and II are given typical forms for recording the facts on which individual pupils failed.

TABLE I

INDIVIDUAL FAILURES IN SOUNDING BLENDS

Pupil	October 10		October 17		October 24		October 31	
George	ban	hot	bake	rake	boat	....	dock	....
Mary	pot	....	cake	hit	....	....	lace	float
Alice	pan	lot	rock	pat	coat	flit	....	....
Frank	....	....	rice	mice	make	....	frock	face

TABLE II

INDIVIDUAL FAILURES ON COMBINATIONS

Pupil	December 4				December 10			December 18		December 26	
Lee	3 4	6 2	....	7 4	6 6	....	....	8 2	....	7 5	....
Rena	6 4	8 2	....	....	4 3	9 2	8 5	9 3	10 2	8 4	9 4
Grace	9 3	....	....	....	7 4	8 4	....	7 5	8 3	9 4	7 2
John	5 4	2 3	6 2	5 3	7 5	6 5	4 4	9 1	8 3	9 2	....

In order to test this theory the pupils of ten or twelve second grades were tested, in October, in their ability in combinations. At the same time as many third-grade rooms were tested in their ability accurately to write as many products as they could in one minute. After these room records were secured five second-grade teachers volunteered to check up their pupils on individual failures in combinations each week, and five third-grade teachers agreed to do likewise on individual failures in multiplication tables, or products.

Below is a copy of the letter sent to the teachers who were attempting this checking method in number work:

DEAR MISS BLANK:

I am inclosing a record sheet on which you have agreed to make ten weekly records of pupil-errors on tables or combinations as far as you have taught them. Each time the record is taken you should test each pupil orally or in writing on products *or* combinations ranging from the 2's through the last table taught. Keep the results of each test on the board or on a chart constantly before the pupils so that they may be induced to rectify errors made by studying the products or combinations on which they failed.

Please record the date for each record, and the errors made by each pupil. Twenty or thirty combinations or as many indicated products might be copied by each pupil from your work on the board. You might pass around the room to see that all are ready and then have pupils write answers *only*. Collect same and record data. The *essential* thing is that *each* pupil work to correct the errors that *he* made in the test.

Very truly,

L. W. MAYBERRY, *Superintendent*

About January 15, the same rooms in which these number tests were given in October were again tested to ascertain the progress made in each room and the relative progress made under the ordinary method of teaching and the checking-up method. To designate the two groups, we shall call the rooms in which the pupils' individual failures were regularly checked the "checked" rooms, and the others "not checked."

We show in Tables III, IV, V, and VI the achievements of the two groups in both second and third grades on the average number of answers *correct*, and not the average number of attempts. The time allowed was one minute.

Judging from the evidences before us, it appears that the "checked" rooms in Second A work gained 41 per cent and the "not checked" rooms gained 18 per cent in achievement. The "checked" rooms in Second A work gained 60 per cent after ten weeks' work and the "not checked" Second A rooms gained 36 per cent.

TABLE III

ROOM	A CLASSES		B CLASSES	
	October	January	October	January
	CHECKED ROOMS—SECOND GRADES			
Room 1	9.9	14.4	7.56	13.8
Room 2	11.7	16.6	7.36	10.4
Room 3	11.1	15.0	8.65	14.4
Room 4	....	....	6.73	10.1
Average	10.9	15.4	7.6	12.2
	NOT CHECKED—SECOND GRADES			
Room 1	11.0	11.7	7.3	11.2
Room 2	....	....	10.5	13.1
Room 3	....	....	7.0	11.0
Room 4	10.8	14.9	7.6	11.2
Room 5	9.7	12.0	8.9	11.4
Room 6	11.0	12.6	8.0	10.8
Room 7	11.0	11.1	8.0	10.2
Room 8	8.5	10.6	7.0	8.1
Average	10.3	12.1	8.0	10.9

TABLE IV

GROUPS	SECOND A CLASSES			SECOND B CLASSES		
	October	January	Percentage of Gain	October	January	Percentage of Gain
Checked rooms	10.9	15.4	41	7.6	12.2	60
Not checked	10.3	12.1	18	8.0	10.9	36

TABLE V

ROOM	A CLASSES		B CLASSES	
	October	January	October	January
	CHECKED ROOMS—THIRD GRADES			
Room 1	8.6	12.3	5.7	8.5
Room 2	12.6	19.1	8.0	15.2
Room 3	8.0	19.6	....	....
Room 4	6.8	15.9	3.6	13.5
Room 5	11.0	11.9	6.8	12.5
Average	9.4	15.7	6.0	12.4

TABLE V—*Continued*

NOT CHECKED—THIRD GRADES

Room 1	6.6	6.0	4.0	5.4
Room 2	12.0	13.0	9.0	9.8
Room 3	9.0	9.1	6.7	6.3
Room 4	8.5	9.0	7.3	7.8
Room 5	....	....	5.6	10.9
Average	9.0	9.2	6.5	8.0

TABLE VI

GROUP	THIRD A CLASSES			THIRD B CLASSES		
	October	January	Percentage of Gain	October	January	Percentage of Gain
Checked rooms	9.4	15.7	67	6.0	12.4	106
Not checked	9.0	9.2	3	6.5	8.0	23

In the "checked" rooms on Third A work the pupils gained 67 per cent and in the "not checked" rooms the gain was less than 3 per cent. The "checked" rooms in Third B work showed a gain of 106 per cent while the "not checked" rooms showed a gain of 23 per cent.

While the number of rooms tested in each grade and class is not sufficient for an absolute conclusion, it is sufficient to suggest very strongly that the checking up of each pupil in *his* individual task gets better results than a failure to do so. Wherever the pupils are held for definite responses, usually secured through drill, this individualizing of the problem will secure excellent results.